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EXAMINER	
BERNARDI, BRENDA C	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/578,125	SCHREIBER, STEFAN	
	Examiner	Art Unit	
	BRENDA BERNARDI	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/28/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-7, 9-11, 14, 16-20, 23, 24, 26-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-7, 9-11, 14, 16-20, 23, 24, 26-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant traverses the Maekawa in view of Wilkinson rejection. The combination of Maekawa and Wilkinson is simply exemplary of the combination of two formats read from opposite sides of the disc which would be obvious to one of ordinary skill in the art. Wilkinson is not intended to disclose the specific range of DVD substrate thickness of less than 0.570 mm and at least 0.525 mm. This limitation is rejected on the basis of lack of inventive step for discovering the optimum or workable ranges by routine experimentation.

Applicant states that the claimed DVD substrate thickness of less than 0.570 mm departs from the applicable DVD standards, that the DVD standards require that the thickness of the DVD substrate thickness of less than 0.570 mm departs from the applicable DVD standards, that the DVD standards require that the thickness of the DVD substrate in the case of a single layer DVD is at least 0.570mm, and that this departure from the DVD standards is significant, considering the tight limits imposed by the applicable standards. However, the presence of "standards" layer thicknesses are just one example of a preferred embodiment agreed upon value or range of values derived for commercial reasons.

Applicant asserts that the present invention is not a case of finding an optimum or workable range within a broader known range. However, general conditions of prior art disclosure include variations in disc dimensions, layer thicknesses, data structure dimensions and layer refractive indicies as examples. General conditions of prior art

are not necessarily restricted to a particular standard value such as DVD layer thickness. Rather, the general conditions are the knowledge disclosed in the prior art of the consequence of varying certain parameters and the effect it has on overall system performance. A person of ordinary skill in the art can vary these design features with predictable results.

Applicant asserts that the optical data carrier of the present invention can be played on a large number of optical disc players as compared to conventional hybrid DVD-CD optical data carriers. Applicant further asserts that such optical disc players include, but are not limited to, optical disc players that place tight limitations on overall disc thickness. However, it is an expected result that a decrease in DVD substrate layer thickness from current standards in a DVD-CD hybrid data carrier necessarily results in compatibility with an increased number of players. Therefore decreasing the DVD substrate layer in order to achieve this compatibility is not an inventive step.

The original rejection is maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 5-7, 9-11, 14, 16-20, 23, 24, 26-48** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation "and at least 0.525 mm" is not supported in the specification.

3. **Claims 1-4, 8, 12, 13, 15, 21, 22 and 25** are canceled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 5-7, 9, 14, 16, 18-20, 23, 24, 26, 28-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Wilkinson et al. (US Patent Publication 2003/0174595)**.

Regarding claim 5, Maekawa discloses an optical data carrier in disc format having at least one CD layer having optically readable CD data structures whose lengths, to suit EFM modulation, are between 3 times and 11 times a basic length T **(page 1, paragraph [0005] and page 6, paragraph [0130])**.

Claim 5 also discloses 3 times the basic length (the 3T value) is at least 0.9 micrometers, 11 times the basic length (the 11T value) is at least 3.3 micrometers, from that surface of the data carrier through which the CD layer is read, the CD layer is situated at a depth of less than 1.1 mm, and the data carrier has a DVD substrate of a thickness of less than 0.570 mm, and at least 0.525 mm. These are rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Maekawa fails to disclose the data carrier has exactly one further data layer, namely a DVD layer.

However, Wilkinson teaches the concept of a dual-layer disc of either CD or DVD format which are read from opposite sides of the data carrier **(page 6, paragraph [0053])**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Maekawa and Wilkinson to create a hybrid disc such that the data carrier has exactly one further data layer, namely a DVD layer, and the CD layer and the DVD layer are read from opposite sides of the data carrier. The motivation would be to provide for increased flexibility in use because of the multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in

their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 6, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose a data carrier in which the thickness of the DVD substrate is at least 0.55 mm.

However this is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 7, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose a data carrier in which the thickness of the DVD substrate is substantially 0.55 mm.

However this is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 9, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5, wherein Wilkinson discloses the pits and lands of the DVD layer are enlarged to ensure optical compensation for a degradation of the reading signal **(page 6, paragraph [0051])**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 14, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein 3 times the basic length T (the 3T value) is at least 0.98 micrometers and 11 times the basic length (the 11T value) is at least 3.57 micrometers.

However this is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 16, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein a track spacing of the CD data structures is less than 1.6 micrometers.

However this is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 18, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the total thickness of the data carrier is not more than 1.7 mm.

However this is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in

their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 19, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose a data carrier wherein the total thickness of the data carrier is not more than 1.5 mm.

However, this is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 20, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the data carrier has a diameter of less than 12 cm.

However, claim 20 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 23, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein from that surface of the data carrier through which the CD is read, the CD layer is situated at a depth of less than 1.05 mm.

However, claim 23 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable

ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 24, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein from that surface of the data carrier through which the CD is read, the CD layer is situated at a depth of substantially 0.9 mm.

However, claim 24 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 26, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the refractive index of a transparent material which is used for the DVD substrate is in the range from 1.4 to 1.55.

However, claim 26 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 28, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose a data carrier wherein the readable structures of the CD layer are widened.

However, Wilkinson discloses a data carrier wherein the readable structures of the CD layer are widened **(page 17, paragraph [0171])**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 29, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose a data carrier wherein the readable structures of the CD layer are of a width of more than 500 nm and preferably of a width of more than 600 nm.

However, claim 29 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in

their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 30, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein a track spacing of the CD data structures is less than 1.4 micrometers.

However, claim 30 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 31, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5, wherein Maekawa discloses the CD layer is entirely read-only **(page 5, paragraph [0103])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 32, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein a total thickness of the data carrier is not more than 1.6 mm.

However, claim 32 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 33, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the data carrier has a diameter of substantially 8 cm.

However, claim 33 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable

ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 34, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein from that surface of the data carrier through which the CD layer is read, the CD layer is situated at a depth of less than 1.00 mm.

However, claim 34 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

Regarding claim 35, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the readable structures of the CD layer are of a width of more than 600 nm.

However, claim 35 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats.

5. **Claims 10 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Wilkinson et al. (US Patent Publication 2003/0174595)** further in view of **Arakawa (US Patent Publication 2002/0155247)**.

Regarding claim 10, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the refractive index of a transparent material which is used for a CD substrate is less than 1.58.

However, Arakawa discloses wherein the refractive index of a transparent material which is used for a CD substrate is less than 1.58 **(page 6, paragraph [0085])**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson with that of Arakawa to provide for a substrate which minimizes reproduction errors.

Regarding claim 11, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the refractive index of a transparent material which is used for the CD substrate is in the range from 1.4 to 1.55.

However, Arakawa discloses the refractive index of a transparent material which is used for a CD substrate is less than 1.55 **(page 6, paragraph [0085])**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of

Maekawa and Wilkinson with that of Arakawa to provide for a substrate which minimizes reproduction errors.

6. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Wilkinson et al. (US Patent Publication 2003/0174595)** further in view of **Kitamura (US Patent Publication 2004/0130990)**.

Regarding claim 17, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the CD layer is partly read-only.

However, Kitamura discloses wherein the CD layer is partly read-only **(page 1, paragraph [0004)**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson with that of Kitamura to provide for a disc type with more

flexibility which contains software written beforehand and also containing a rewritable area.

7. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Wilkinson et al. (US Patent Publication 2003/0174595)** further in view of **Maeda (US Patent 6,324,155)**.

Regarding claim 27, the combined disclosures of Maekawa and Wilkinson disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the data carrier has at least two substrates having different refractive indexes.

However, Maeda discloses wherein the data carrier has at least two substrates having different refractive indexes **(column 3, lines 26-41)**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson in order to provide for a hybrid disc with both CD and DVD formats. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson with that of Maeda to provide for improved focusing for both layers.

8. **Claims 36, 40-43, 45, 46 and 48** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Kuchman (US Patent Publication 2003/0218966)**.

Regarding claim 36, Maekawa discloses an optical data carrier in disc format having at least one CD layer having optically readable CD data structures whose lengths, to suit EFM modulation, are between 3 times and 11 times a basic length T **(page 1, paragraph [0005] and page 6, paragraph [0130])**.

Claim 36 also discloses 3 times the basic length (the 3T value) is at least 0.9 micrometers, 11 times the basic length (the 11T value) is at least 3.3 micrometers, from that surface of the data carrier through which the CD layer is read, the CD layer is situated at a depth of less than 1.1 mm, and the data carrier has a DVD substrate of a thickness of less than 0.550 mm, and at least 0.525 mm. These are rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Maekawa fails to disclose the data carrier has at least two further DVD data layers.

However, Kuchman teaches a data carrier which is double-sided/dual-layer DVD **(page 1, paragraph [0005])**.

Maekawa fails to disclose the CD layer and the DVD layers are read from opposite sides of the data carrier.

Kuchman teaches that for double-sided DVDs or the like, data may be read through substantially transparent bottom and top surfaces **(page 4, paragraph [0051])**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to create a hybrid DVD-CD where the DVD is dual-layer such that the data carrier has at least two further DVD layers and the CD layer and the DVD layers are read from opposite sides of the data carrier. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 40, data carrier according to claim 36, wherein 3 times the basic length T (the 3T value) is at least 0.98 micrometers and 11 times the basic length (the 11T value) is at least 3.57 micrometers.

Maekawa fails to disclose wherein 3 times the basic length T (the 3T value) is at least 0.98 micrometers and 11 times the basic length (the 11T value) is at least 3.57 micrometers.

However, claim 40 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable

ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to create a hybrid DVD-CD where the DVD is dual-layer such that the data carrier has at least two further DVD layers and the CD layer and the DVD layers are read from opposite sides of the data carrier. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 41, data carrier according to claim 36, wherein the total thickness of the data carrier is not more than 1.7 mm and preferably not more than 1.6 mm.

Maekawa fails to disclose wherein the total thickness of the data carrier is not more than 1.7 mm and preferably not more than 1.6 mm.

However, claim 41 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to create a hybrid DVD-CD where the DVD is dual-layer such that the data carrier has at least two further DVD layers and the CD layer and the DVD layers are read from opposite sides of the data carrier. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 42, data carrier according to claim 36, wherein the total thickness of the data carrier is not more than 1.5 mm.

Maekawa fails to disclose wherein the total thickness of the data carrier is not more than 1.5 mm.

However, claim 42 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to create a hybrid DVD-CD where the DVD is dual-layer such that the data carrier has at least two

further DVD layers and the CD layer and the DVD layers are read from opposite sides of the data carrier. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 43, data carrier according to claim 36, wherein the data carrier has a diameter of less than 12 cm, and preferably a diameter of approximately 8 cm.

Maekawa fails to disclose wherein the data carrier has a diameter of less than 12 cm, and preferably a diameter of approximately 8 cm.

However, claim 43 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to create a hybrid DVD-CD where the DVD is dual-layer such that the data carrier has at least two further DVD layers and the CD layer and the DVD layers are read from opposite sides of the data carrier. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 45, data carrier according to claim 36, wherein, from that surface of the data carrier through which the CD layer is read, the CD layer is situated at a depth of less than 1.00 mm, and preferably at a depth of substantially 0.9 mm.

Maekawa fails to disclose wherein, from that surface of the data carrier through which the CD layer is read, the CD layer is situated at a depth of less than 1.00 mm, and preferably at a depth of substantially 0.9 mm.

However, claim 45 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to create a hybrid DVD-CD where the DVD is dual-layer such that the data carrier has at least two further DVD layers and the CD layer and the DVD layers are read from opposite sides of the data carrier. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in

their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 46, data carrier according to claim 36, wherein the refractive index of a transparent material which is used for the DVD substrate is in the range from 1.4 to 1.55.

Maekawa fails to disclose wherein the refractive index of a transparent material which is used for the DVD substrate is in the range from 1.4 to 1.55.

However, claim 46 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to create a hybrid DVD-CD where the DVD is dual-layer such that the data carrier has at least two further DVD layers and the CD layer and the DVD layers are read from opposite sides of the data carrier. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Regarding claim 48, data carrier according to claim 36, wherein the readable structures of the CD layer are of a width of more than 500 nm and preferably of a width of more than 600 nm.

Maekawa fails to disclose wherein the readable structures of the CD layer are of a width of more than 500 nm and preferably of a width of more than 600 nm.

However, claim 46 is rejected because "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" in re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to create a hybrid DVD-CD where the DVD is dual-layer such that the data carrier has at least two further DVD layers and the CD layer and the DVD layers are read from opposite sides of the data carrier. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

9. **Claim 37** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Kuchman (US Patent**

Publication 2003/0218966) further in view of **Wilkinson et al. (US Patent Publication 2003/0174595)**.

Regarding claim 37, the combined disclosures of Maekawa and Kuchman disclose the data carrier according to claim 36, wherein Wilkinson discloses the pits and lands of the DVD layer are enlarged to ensure optical compensation for a degradation of the reading signal **(page 6, paragraph [0051])**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa and Kuchman to offer versatility in data storage by having a single disc with multiple formats. It would have been obvious to combine the disclosure of Wilkinson in order provide for improved data reproduction.

10. **Claims 38 and 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Kuchman (US Patent Publication 2003/0218966)** further in view of **Arakawa (US Patent Publication 2002/0155247)**.

Regarding claim 38, the combined disclosures of Maekawa and Kuchman disclose the data carrier according to claim 36.

Maekawa fails to disclose wherein the refractive index of a transparent material which is used for a CD substrate is less than 1.58.

However, Arakawa discloses wherein the refractive index of a transparent material which is used for a CD substrate is less than 1.58 **(page 6, paragraph [0085])**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Kuchman in order to provide for a hybrid disc with both CD and DVD formats. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Kuchman with that of Arakawa to provide for a substrate which minimizes reproduction errors.

Regarding claim 39, the combined disclosures of Maekawa and Kuchman disclose the data carrier according to claim 36.

Maekawa fails to disclose wherein the refractive index of a transparent material which is used for the CD substrate is in the range from 1.4 to 1.55.

However, Arakawa discloses the refractive index of a transparent material which is used for a CD substrate is less than 1.55 **(page 6, paragraph [0085])**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Kuchman in order to provide for a hybrid disc with both CD and DVD formats. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Kuchman with that of Arakawa to provide for a substrate which minimizes reproduction errors.

11. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Kuchman (US Patent Publication 2003/0218966)** further in view of **Maeda (US Patent 6,324,155)**.

Regarding claim 27, the combined disclosures of Maekawa and Kuchman disclose the data carrier according to claim 5.

Maekawa fails to disclose wherein the data carrier has at least two substrates having different refractive indexes.

However, Maeda discloses wherein the data carrier has at least two substrates having different refractive indexes **(column 3, lines 26-41)**.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in

their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Kuchman in order to provide for a hybrid disc with both CD and DVD formats. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosures of Maekawa and Wilkinson with that of Maeda to provide for improved focusing for both layers.

12. **Claim 44** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maekawa (US Patent Publication 2003/0155871)** in view of **Kuchman (US Patent Publication 2003/0218966)** further in view of **Schreiber (US Patent Publication 2006/0140108)**.

Regarding claim 44, the combined references of Maekawa and Kuchman disclose the data carrier according to claim 36.

Maekawa fails to disclose the CD layer is combined with two DVD layers and an SACD layer, the DVD layers and the SACD layer being read from opposite sides of the data carrier, and wherein the CD layer is situated below the SACD layer so that the SACD layer and the CD layer are optically separated from the DVD layers.

Schreiber '108 teaches a hybrid SACD/CD in which an SACD disc also has a CD layer below it.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Maekawa, Kuchman and Schreiber such that the CD layer is combined with two DVD layers and an SACD layer, the DVD layers and the SACD layer being read from opposite sides of the data carrier, and wherein the CD layer is situated below the SACD layer so that the SACD layer and the CD layer are optically separated from the DVD layers. The motivation would be to offer versatility in data storage by having a single disc with multiple formats.

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENDA BERNARDI whose telephone number is (571)270-7125. The examiner can normally be reached on 5:30 to 2:00 M thru F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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